

Abstract

Processes, etchants, and apparatus useful for etching an insulating oxide layer of a substrate without damaging underlying nitride features or field oxide regions. The processes exhibit good selectivity to both nitrides and field oxides. Integrated circuits
5 produced utilizing etching processes of the present invention are much less likely to be defective due to photoresist mask misalignment. Etchants used in processes of the present invention comprise a carrier gas, one or more C_2F gases, CH_2F_2 , and a gas selected from the group consisting of CHF_3 , CF_4 , and mixtures thereof. The processes can be performed at power levels lower than what is currently utilized in the prior art.

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